

primaries assumed a pretty pinkish hue in marked contrast to the tawny colour of the secondaries; I took several quite fresh specimens. All the Saas-Fée *Erebias* were taken, and in addition, amidst the moraines near the lake, *F. gorge* still delighted to spread their wings to the sun on the hot stones; one or two were fresh, but the majority quite too worn to capture. The only *Heterocera* I took were an *Endrosa* (*Setina*) *aurita* and one or two *Epsilia* (*Agrotis*) *cuprea*. I took a comfortable walk from the Fée Alp to Stalden the following day, and from thence went on to Eclépens, an account of which place has already appeared in your journal, and thus ended my holiday for 1910. But the glaciated valley of Mattmark so filled me with interest that I felt I must try some time to spend a few days beside all that remains of the former lake, now so shrunk, narrow and shallow, that I was told I could walk through it almost anywhere.

Lasius mixtus, Nyl., in Britain.

By H. Sr. J. K. DONISTHORPE, F.Z.S., F.E.S.

There are only two records heretofore of *Lasius mixtus*, Nyl. (a race of *L. umbratus*, Nyl.), occurring in Britain. The first* record was by the late C. J. Bignell, who brought it forward as new to Britain on ♂s, ♀s and ♂s which he discovered at Bickleigh, near Plymouth. Subsequently Grimshaw† recorded it from the Isle of May, where he also took ♂s, ♀s and ♂s.

On examining my series of *L. umbratus* I found that I possessed a dealated ♀ which I had taken at Weybridge on March 7th, 1910. Recently Mr. Evans, of Edinburgh, sent me specimens to determine of ants which he had taken in the Isle of May. There were undoubtedly ♀s and ♂s of *L. mixtus* among them. On February 17th last my friend, Mr. Hereward Dollman, found a dealated ♀ of this race in Richmond Park, and on April 22nd my friend, Mr. Crawley, and I captured two dealated ♀s on the road near Mickleham. It is therefore probable that this race is widely distributed in Britain.

To enable British Hymenopterists to recognise this ant, I have translated the tables given by Professor Forel in his *Fourmis de la Suisse*.

WORKERS.

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|---|------------------------------------|
| A. Size variable, generally small; l. 2mm.-4mm. In large specimens the abdomen and the head reddish. Scale low, a little broader at the base than at the apex, not or scarcely emarginate. Thorax and abdomen very hairy on the upper side. Tibiæ pubescent, without exserted hairs | <i>L. flavus</i> , Fab. |
| B. Size less variable, generally large; l. 3.5mm.-5mm. The whole body the same colour, clear yellow, sometimes a little reddish. Scale higher than in the preceding species, narrower at the apex than at the base | <i>L. umbratus</i> . |
| (a). Tibiæ with exserted hairs. Thorax and abdomen very hairy. Scale high, entire or very feebly emarginate at the top. l. 3.5mm.-4.5mm. | <i>L. umbratus</i> , 1, spec. Nyl. |

* "*Lasius mixtus*, Nyl., an Ant new to Britain," *Entom.*, xiv., 1881, p. 262.

† *Ann. Scot. Nat. Hist.*, 1908, p. 89.

- (b). Tibiæ without exserted hairs. Head, thorax and abdomen with only short hairs. Scale less high than in *umbratus*, but higher than in *flavus*, often feebly emarginate at the top.
 l. 3·5mm.-4mm. Race *L. mixtus*, Nyl.

FEMALES.

- A. Head small, not as broad as the thorax, without distinct emargination behind. Thorax broad; abdomen much broader than the thorax. Size very large in comparison with the worker *L. flavus*, Fab.
- B. Head broader than the thorax, strongly emarginate at the hind border. Thorax fairly narrow. Wings clouded with brown as far as the middle. Abdomen only a little broader than the thorax. Size less large in comparison with the worker *L. umbratus*.
- (a) Tibiæ with exserted hairs. The upperside of the thorax and abdomen abundantly provided with short and flat hairs. Of a brown red; mouth, antennæ, and legs lighter. Scale generally emarginate. l. 7mm.-8mm. *L. umbratus*, 1, spec. Nyl.
- (b) Tibiæ without exserted hairs. Thorax nearly without hairs on the upperside. Abdomen with only a little short hair. Colour the same as in the preceding, but the underside of the head and thorax, as well as the metanotum and nearly the whole of the scale are reddish, clear. l. 6mm.-8mm. Race, *L. mixtus*, Nyl.

MALES.

- A. Terminal edge of the mandibles with one large tooth in front *L. flavus*, Fab.
- B. Terminal edge of the mandibles with five teeth. Brown-black. Frontal furrow always distinct. Wings clouded with brown as far as the middle. l. 4mm.-4·5mm. Head large *L. umbratus*.
- (a) Eyes distinctly hairy *L. umbratus*, 1 spec. Nyl.
- (b) Eyes almost without hair Race, *L. mixtus*, Nyl.

In 1897 Mons. Charles Janet published an admirable paper, *Sur le Lasius mixtus*, at Limoges. He gave a long account of the habits of this ant, and also of the Myrmecophiles he found with it. Most of the same species occur also with *L. umbratus*. I have found the following *Acari* with the latter in Britain, all of which Mons. Janet records with *L. mixtus* at Beauvais.

Tropoda ovalis, Koch, fixed on the femora of the ants in a nest from Weybridge.

Cilibano comata, Berlese, on the larvæ of the ants in a nest at Woking.

Trachyropoda bostocki, Mich., in some numbers in a nest at Whitsand Bay.

Antennophorus uhlmanni, Haller, in large numbers on the ants in the nest at Woking. Only two specimens have ever been taken before in Britain; this was by Michael in Cornwall.

Sphaerolaelaps holothyroides, Berlese (*Neoberlesia* sp. ? of Mons. Janet's paper), in nests at Bewdley, Wellington College, Woking, Weybridge, Box Hill, etc.

Uropoda philoctena, Trouessart, fastened to the strigil of the ants in the nest from Weybridge. Mr. Crawley has also found it on his ants from the same nest. This species is new to Britain. There are

excellent figures of the first, second, fourth, and last of these species in Mons. Janet's paper.

Professor Wheeler, in a paper on the North American forms of *Lasius umbratus* (*Psyche*, xvii., no. 6, 1910, p. 240), points out that *L. umbratus*, Nyl., sub-sp. *mirvus*, Nyl. var. *aphidicolae*, Walsh, is the most common form of *umbratus* in North America.

In my paper in the *Trans. Leicester Lit. and Phil. Soc.*, 1908, xii., pt. ii., p. 231, I gave a list of the 30 previous notes and papers I had written as contributions to our knowledge on Myrmecophilous subjects. The present paper is no. 51, and I now give a list of the rest of my communications from no. 31 to no. 50.

No. 31.—“Ants Found in Great Britain,” *Trans. Leicester Lit. and Phil. Soc.*, 1908, vol. xii., pt. ii., pp. 221-233.

No. 32.—“A Few Notes on Myrmecophilous Spiders,” *The Zoologist*, 1908, pp. 419-425.

No. 33.—“Myrmecophilous Notes for 1908,” *Ent. Record*, 1908, pp. 281-284; 1909, pp. 17-20 (with plate).

No. 34.—“On the Origin and Ancestral Form of Myrmecophilous Coleoptera,” *Trans. Ent. Soc. Lond.*, 1909, pt. iii., pp. 397-411.

No. 35.—“On the Colonisation of New Nests of Ants by Myrmecophilous Coleoptera,” *Trans. Ent. Soc. Lond.*, 1909, pt. iii., 413-429.

No. 36.—“Ants at Kew,” *Royal Botanic Gardens, Kew Bulletin*, 1909, ix., pp. 250-251 (with plate).

No. 37.—“*Pachyloma buccata*, Bréb., in the Isle of Wight,” *Ent. Mo. Mag.*, 1909, p. 238.

No. 38.—“*Formica sanguinea*, Ltr., at Bewdley, with an account of a Slave-raid, and description of two Gynandromorphs,” etc., *The Zoologist*, 1909, pp. 463-466 (with two wood-cuts).

No. 39.—“Some Experiments with Ants' Nests,” *Trans. Ent. Soc. Lond.*, 1910, pt. ii., pp. 142-150.

No. 40.—“Myrmecophilous Notes for 1909,” *Ent. Record*, 1909, pp. 257-259, 287-291; 1910, pp. 15-17.

No. 41 (=21a, omitted in previous list).—“*Lomechusa strumosa*, F., as a British Insect,” *Ent. Record*, 1906, p. 159.

No. 42.—“On the Founding of Nests by Ants; and a few Notes on Myrmecophiles,” *Ent. Record*, 1910, pp. 82-85.

No. 43.—“Hearing in Ants,” *Ent. Record*, 1910, p. 117.

No. 44.—“Fourmis et leurs hôtes,” *Trans. Ier. Congrès International d'Entomologie, Bruxelles, Août.*, 1910, pp. 199-208 (with plates).

No. 45.—“Further Observations on Temporary Social Parasitism and Slavery in Ants,” *Trans. Ent. Soc. Lond.*, 1911, pp. 175-183.

No. 46.—“Myrmecophilous Notes for 1910,” *Ent. Record*, 1911, pp. 10-15, 58-63.

No. 47.—“*Trichonyx sulcicollis*, Reich., and *Amauronyx märkeli*, Aubé, as Myrmecophilous Insects,” *Ent. Mo. Mag.*, 1911, p. 67.

No. 48.—“*Microdon eggeri*, Mik., in Nests of *Formica sanguinea*, Latr., in the Luxembourg,” *Ent. Mo. Mag.*, 1911, p. 43.

No. 49 (=9a, omitted in list in No. 31).—“Evolution of our Knowledge of Myrmecophilous Coleoptera,” *Ent. Record*, 1901, pp. 51-56.

No. 50.—“*Amphisbatis incongruella*, Stn., probably myrmecophilous in the larval stage, and a few Notes on some other Myrmecophiles,” *Ent. Record*, 1911, pp. 169-170.